Homan's Sign Test

Purpose

Homan’s sign test is a physical examination procedure used to test for DVT. A positive Homan’s sign in the presence of other clinical signs may be a quick indicator of DVT.

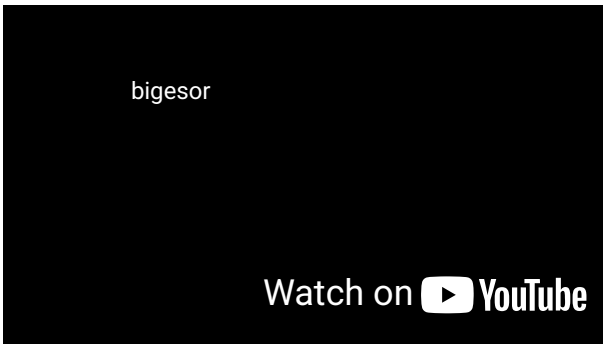
Homan’s sign test also called the dorsiflexon sign test was defined by John Homan in 1941.[1] Homan's sign test is a physical examination procedure used to test for Deep Vein Thrombosis (DVT). The clinical evaluation alone cannot be relied on for patient management. Still, when carefully performed, it remains useful in determining the need for additional testing (like the D-dimer test, ultrasonography, multidetector helical computed axial tomography (CT), and pulmonary angiography) [2][3].

DVT sign on the R.leg

Technique

1. In performing this test the patient will need to actively extend his knee.
2. Once the knee is extended the examiner raises the patient’s straight leg to 10 degrees, then passively and abruptly dorsiflexes the foot and squeezes the calf with the other hand.
3. Deep calf pain and tenderness may indicate the presence of DVT.

The mechanism of the technique has been explained as follows: passive and abrupt ankle dorsiflexion together with knee flexion causes mechanical traction on the posterior tibial vein, which stimulates pain-sensitive structures of the lower limb.[4][5]



[6]

Precaution

Surgeons use vigorous dorsiflexion of the foot to expel clots from the veins, so this test may have its dangers[7].

Common Errors

A common error that may occur is the examiner not dorsiflexing the patient's foot enough to get a correct interpretation. The knee of the patient must also be in full extension.

Differential Diagnosis

The following are the conditions that can be associated with a positive Homan's sign:[8][9]

- Intervertebral disc herniation
- Ruptured Baker's cyst
- Neurogenic claudication
- Gastrocnemius spasm, and cellulitis.

Evidence

Homan's sign has low sensitivity and specificity in diagnosing DVT.[10] It is useful in diagnosing DVT but not sufficient to rule in or out DVT.[11]

Homan's sign does not accurately predict DVT, however, it may facilitate in identifying DVT and it is only seen in about 50% of DVT patients.[12] Venography is an invasive test and is highly accurate for diagnosing DVT.[10]

Homan's sign may be of value if used in addition to more accurate diagnostic procedures like ultrasonography and venography.[10]

Relevance to Physiotherapists

Homan's sign test may serve as a quick and easy way to determine if a patient might be having a DVT and subsequently exercise caution when carrying out certain movements involving the lower limb, especially in bedridden and unconscious patients.

References

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